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PATENT APPLICATION

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re application of

Docket No: Q78183

Yuji ISODA

Appln. No.: 10/706,051

Group Art Unit: 1762

Confirmation No.: 7136

Examiner: Bret P. Chen

Filed: November 13, 2003

For: RADIO-CONDUCTIVE MATERIAL, METHOD OF MANUFACTURING THE SAME,
SOLID SENSOR USING THE SAME, METHOD OF MANUFACTURING RADIO-
CONDUCTIVE FILM, AND RADIATION IMAGE READ-OUT APPARATUS

SUBMISSION OF APPEAL BRIEF

MAIL STOP APPEAL BRIEF - PATENTS

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Submitted herewith please find an Appeal Brief. A check for the statutory fee of \$500.00 is attached. The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account. A duplicate copy of this paper is attached.

Respectfully submitted,

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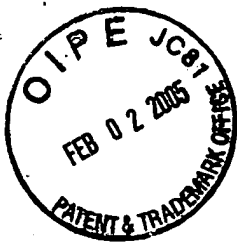
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Registration No. 51,283

WASHINGTON OFFICE

23373

CUSTOMER NUMBER

Date: February 2, 2005



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APPEAL BRIEF UNDER 37 C.F.R. § 41.37

MAIL STOP APPEAL BRIEF - PATENTS

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P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In accordance with the provisions of 37 C.F.R. § 41.37, Appellant submits the following:

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I. REAL PARTY IN INTEREST

The real party in interest is the Assignee, Fuji Photo Film Co. Ltd. An assignment was filed in U.S. Application No. 09/777,682, which is the parent application of the present U.S. Application No. 10/706,051, on February 7, 2001, and recorded at reel 011548, frame 0340.

II. RELATED APPEALS AND INTERFERENCES

Appellant, Appellant's counsel, and the assignee of the application are not aware of any other prior or pending appeals, interferences or judicial proceedings which may be related to, or directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1-3 and 5-8 are pending in the application.

Claims 1-3 and 5-8 are rejected.

Claims 1-3 and 5-8 are being appealed.

Claims 1-3 and 5-8 are set forth in their entirety in the Claims Appendix submitted herewith.

IV. STATUS OF AMENDMENTS

On June 30, 2004, an Amendment Under 37 C.F.R. § 1.111 was filed in response to the non-final Office Action mailed March 30, 2004.

The final Office Action mailed August 2, 2004, indicates that the Amendment filed on June 30, 2004 has been entered.

No amendments have been submitted after the final rejection of the claims in the June 30, 2004 Office Action.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

Claim 1 is drawn to a method of manufacturing a radio-conductive film of an inorganic/organic composite radio-conductive material. Page 5, paragraph [16]. The method comprises the step of pressing the inorganic/organic composite radio-conductive material. Page 8, paragraph [38]. The radio-conductive material is pressed in a state where the radio-conductive material is formed on a substrate. Pages 30-31, paragraphs [131]-[134]. The radio-conductive material is pressed at a pressure not higher than 50 Kg/cm². Page 9, paragraph [41].

Advantageously, the method of the invention provides a radio-conductive film which is extremely small in void volume and accordingly large in inorganic material content. Page 5, paragraph [16].

Claim 2 depends from claim 1. Claim 2 further requires that the inorganic/organic composite radio-conductive material is pressed at an elevated temperature. Page 9, paragraph [40].

Claim 3 depends from claim 2. Claim 3 further requires that the elevated temperature is in the range of 50°C to 200°C. Page 9, paragraph [40].

Claim 5 depends from claim 1. Claim 5 further requires that the inorganic/organic composite radio-conductive material is BiI₃/nylon. Page 9, paragraph [43].

Claim 6 also depends from claim 1. Claim 6 further requires that the process further comprises the step of heating a film of inorganic/organic composite radio-conductive material, and wherein a film of inorganic/organic composite radio-conductive material is pressed during pressing. Page 9, paragraph [42] and page 31, paragraph [134].

Claim 7 depends from claim 6. Claim 7 further requires that the elevated temperature is in the range of 50°C to 200°C. Page 9, paragraph [40].

Claim 8 also depends from claim 6. Claim 8 further requires that the inorganic/organic composite radio-conductive material is BiI₃/nylon. Page 9, paragraph [43].

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-3 and 5-8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pat. No. 5,556,716 (“Herron et al”).

VII. ARGUMENT

A. §103 Obviousness Rejection of Claims 1-3 and 5-8

Claims 1-3 and 5-8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Herron et al.

Herron et al is directed to a method of making a radio-conductive inorganic/organic composite film, including a BiI₃/nylon composite, where the film can be formed by applying the film onto a substrate and heat pressing, where the heating is on the order of 50-150°C (col. 4, line 24; col. 6, lines 11; Examples 3-7).

The Examiner concedes that Herron et al' failure to disclose the amount of pressure applied to the film during the heat pressing. Page 2 of the final Office Action dated August 2, 2004. Notwithstanding, the Examiner asserts that one of ordinary skill in the art would have recognized that the amount of pressure applied during a heat pressing treatment is a cause effective variable, as the amount of pressure effects the compaction of the composite film. Page 2 of the final Office Action. According to the Examiner, it is obvious to obvious to one of ordinary skill in the art to have determined the optimum value of a cause variable, such as pressure, through routine experimentation, and thus the claimed invention would have been obvious to one of ordinary skill in the art. Pages 2 and 3 of the final Office Action. Further, the Examiner asserts that Herron et al inherently teaches the claimed pressure range because it does not teach a broken or deformed substrate. Page 3 of the final Office Action.

B. The Error in the Rejection

The rejection based on Herron et al is improper and fails to establish a *prima facie* case of obviousness. In particular, Herron et al does not teach or suggest a method comprising pressing the radio-conductive material *in a state* where the radio-conductive material is formed on a substrate.

C. Present Claims 1-3 and 5-8 are Patentable Under 35 U.S.C. § 103

To establish a *prima facie* case of obviousness, the Examiner must show three criteria. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. *See* MPEP §2143.01 (2004); *In re Thrift*, 298 F.3d 1357, 1363, 63 USPQ2d 2002, 2007 (Fed. Cir. 2002). Second, there must be a reasonable expectation of success. *See* MPEP §2143.02 (2004); *In re Inland Steel Co.*, 265 F.3d 1354, 1362-64, 60 USPQ2d 1396, 1401-03 (Fed. Cir. 2001). Finally, the prior art references must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed invention and the reasonable expectation of success must both be found in the prior art and not based on Applicants' disclosure. *See* MPEP § 706.02(j) (2004); MPEP §2143.03 (2004); *In re Vaeck*, 947 F.2d 488, 493, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991). Under this framework, the Examiner has not made a sufficient showing of *prima facie* obviousness.

Herron et al discloses a photoconductive composition comprising an inorganic semiconductor such as BiI₃, and a carrier-transporting polymer in the presence of X-rays, such as nylons (col. 4, lines 37-40 and 45-56; col. 5, lines 38-44).

One of the requirements of establishing a *prima facie* case of obviousness as set forth above is that the prior art references must teach or suggest *all* the claim limitations; the teaching or suggestion must be found in the prior art and not based on Applicants' disclosure. See MPEP § 706.02(j) (2004); MPEP § 2143.03 (2004); *In re Vaeck*, 947 F.2d 488, 493, 20 USPQ2d 1438, 1442-43 (Fed. Cir. 1991). Herron et al does not disclose or suggest the method of the present invention comprising pressing the radio-conductive material *in a state where the radio-conductive material is formed on a substrate*.

The Examiner considered partially Examples 3-7 of Herron et al as disclosing making a radio-conductive inorganic/organic composite film, including a BiI₃/nylon composite, where the film can be formed by applying the film onto a substrate and heat pressing, where the heating is on the order of 50-150°C. See page 2 of the final Office Action.

However, contrary to the Examiner's assertion, Examples 3-7 do not involve *heat pressing*. Rather, heating was applied to remove the residue solvent.

Herron et al discloses that a thin film of the photoconductive composition may be prepared by thermally pressing together clusters and a polymer, which are the components of the thin film (col. 6, lines 6-10). However, **no substrate is involved in this disclosure**.

Further, in Examples 16 and 17, powdered BiI₃ was dissolved in a melt of nylon-11 or nylon-12 at 190°C and then the *viscous melt was pressed onto* a substrate (col. 11, lines 30-50). That is, the melt was not on the substrate prior to pressing.

Thus, the process disclosed in Herron et al is different from the present invention which requires that the radio-conductive material be pressed *in a state where the radio-conductive material is formed on a substrate*. See claim 1.

Specifically, in the present invention, the radio-conductive material is, *before pressing*, in the form of a block or a film formed on a substrate by, for example, a liquid deposition process or a melt deposition process. See page 9, paragraph [39] and page 30, paragraphs [131] and [132]. On the other hand, in Herron et al, as described in Examples 16 and 17, the melt was *pressed onto* a substrate.

The Examiner has not provided a sufficient evidentiary basis for asserting that Herron et al teaches or suggests pressing the radio-conductive material *in a state where the radio-conductive material is formed on a substrate*.

Further, the object of the pressing in Herron et al is different from that of the present invention. Specifically, as noted above, the object of the pressing in Herron et al is to evaporate solvent. Whereas the object of the pressing in the present invention is to decrease the volume of the voids in the film (voids cannot exist in the state of melt). The material to be pressed in the present invention is in a solid state to some extent so that it can have voids.

For at least the foregoing reasons, Appellant respectfully submits that the Examiner has not carried his burden of establishing a *prima facie* case of obviousness and that the rejection is improper and should be reversed.

Unless a check is submitted herewith for the fee required under 37 C.F.R. §41.37(a) and 1.17(c), please charge said fee to Deposit Account No. 19-4880.

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CLAIMS APPENDIX

CLAIMS 1-3 and 5-8 ON APPEAL:

1. A method of manufacturing a radio-conductive film of an inorganic/organic composite radio-conductive material comprising the step of pressing the inorganic/organic composite radio-conductive material, wherein the radio-conductive material is pressed in a state where the radio-conductive material is formed on a substrate, and the radio-conductive material is pressed at a pressure not higher than 50 kg/cm^2 .
2. A method as defined in Claim 1 in which the inorganic/organic composite radio-conductive material is pressed at an elevated temperature.
3. A method as defined in Claim 2 in which the elevated temperature is in the range of 50°C to 200°C .
5. A method as defined in Claim 1 in which the inorganic/organic composite radio-conductive material is $\text{BiI}_3/\text{nylon}$.
6. A method as defined in Claim 1, wherein said process further comprises the step of heating a film of inorganic/organic composite radio-conductive material, and wherein a film of inorganic/organic composite radio-conductive material is pressed during pressing.
7. A method as defined in Claim 6 in which the elevated temperature is in the range of 50°C to 200°C .
8. A method as defined in Claim 6 in which the inorganic/organic composite radio-conductive material is $\text{BiI}_3/\text{nylon}$.

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EVIDENCE APPENDIX:

Pursuant to 37 C.F.R. § 41.37(c)(1)(ix), submitted herewith are copies of any evidence submitted pursuant to 37 C.F.R. §§ 1.130, 1.131, or 1.132 or any other evidence entered by the Examiner and relied upon by Appellant in the appeal.

NONE

APPEAL BRIEF UNDER 37 C.F.R. § 41.37
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RELATED PROCEEDINGS APPENDIX

Submitted herewith are copies of decisions rendered by a court or the Board in any proceeding identified above in Section II pursuant to 37 C.F.R. § 41.37(c)(1)(ii).

NONE